Certificate of Acceptance
Your submitted Report of Compliance (New) was approved as the contents below.
By issuing the acceptance No. and sending this email,
this is the completion of internet submission of your report of compliance.

Application Number: 3622-2970-9683-835
Acceptance Number: 3904724
Report of Compliance: New
Member Number: 726
Company: Quanta Computer Inc.
Address: No.188, Wen Hwa 2nd Rd., Kuei Shan Hsiang, Taoyuan Shien, Taiwan, R.O.C. 333
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Address(Contact Person): No.188, Wen Hwa 2nd Rd., Kuei Shan Hsiang, Taoyuan Shien, Taiwan, R.O.C. 333
Department(Contact Person): ESBU EMI Section
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Phone(Contact Person): 886-3-327-2345#16299
FAX(Contact Person): 886-3-397-3614
E-mail(Contact Person): Wei-Chia.Li@quantatw.com
E-mail(Resipient of Certificate):susanchen@gestek.com.tw
Acceptance No. of the original report:
Type of ITE: Server
Clasification of ITE: class_a
Clasification Code: A1
Type, etc. (Model No.): QR1-1600, QSSC810
Type to be added/modified:
Name of testing agency or company: Global EMC Standard Tech. Corp.
Radiated Test Site: R-1712
Conducted Test Site (mains ports): C-1831
Date of Testing_Other: December 18,2007-December 19,2007
Serial No. of the certificate of the test result: 0712034V-01
Measurement Distance: 10
Comment:
VOLUNTARY CONTROL FOR INTERFERENCE BY INFORMATION TECHNOLOGY EQUIPMENT (VCCI)

Certificate of Test

January 2008

Quanta Computer Inc.

Product Type	**: Server**
Model Number	**: QR1-1600, QSSC810**
Brand Name	**: Quanta**
Test Report Number	**: 0712034V-01**
Date of Test	**: December 18, 2007—December 19, 2007**

This Product was tested to the following standards at the laboratory of Global EMC Standard Tech. Corp., and found Compliance.

Standards:
VCCI Class A / CISPR 22

http : //www.gestek.com.tw

Sharon Chang, President

Date: January 04, 2008

GesTek EMC Lab
N0. 3, Pau-Tou-Tsuo Valley, Chia-Pau Tsuen,
Lin Kou Hsiang, Taipei County, Taiwan, R.O.C.
TEL:886-2-2603-5321
FAX:886-2-2603-5325

NVLAP LAB CODE 200085-0

EMI Test Report For

Quanta Computer Inc.

EUT: Server

Model Number:QR1-1600, QSSC810

Prepared for:
Quanta Computer Inc.
No.188, Wen Hwa 2nd Rd., Kuei Shan Hsiang, Taoyuan Shien, Taiwan, R.O.C. 333

Report By : **Global EMC Standard Tech. Corp.**
No.3 Pau-Tou-Tsuo Valley, Chia-Pau Tsuen, Lin Kou Hsiang, Taipei County, Taiwan, R.O.C.
Tel : 886-2-2603-5321
Fax : 886-2-2603-5325

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1. CERTIFICATION

Applicant : Quanta Computer Inc.

EUT Description	: Server
Model Number	: QR1-1600, QSSC810
Brand Name	: Quanta
Serial Number	: N/A
Tested Power Supply	: 100Vac/50Hz

MEASUREMENT PROCEDURE USED :

Agreement of Voluntary Control Council for Interference by Information Technology Equipment Regulations for Voluntary Control Measures
VCCI Class A / ITE (V – 3 / 2007. 04 21th Edition)
VCCI Class A / ITE (V – 4 / 2007. 04 12th Edition)

.

For VCCI:

The measurement shown in the attachment where made in accordance with the procedures indicated, and the maximum energy emitted by the equipment was found to be within the VCCI limits applicable.

Date of Test: December 18, 2007—December 19, 2007

In order to ensure the quality and accuracy of this document, the contents have been thoroughly reviewed by the following qualified personnel from GesTek Lab.

Documented By :

Susan Chen

Susan Chen / adm. Dept. Technical Report Author

Tested By:

Sky Chuang

Sky Chuang / eng. Dept. Engineer

Approved By :

Tonny Lin

Tonny Lin / General Manager

2. SUMMARY OF TEST RESULTS

STANDARD	TEST ITEM	TEST RESULT	REMARKS
VCCI Class A	Conducted emission (Mode 5)	PASS	The worst emission frequency is 0.5242 MHz. And minimum passing margin is –21.97 dB. The measurement uncertainty is 3.6 dB.
	Radiated emission (Mode 5)	PASS	The worst emission frequency is 674.9944 MHz at Horizontal. And minimum passing margin is –4.59 dB. Height of antenna is 3.0 M. Angle of turntable is 143°. The measurement uncertainty is 5.1 dB.

3. GENERAL INFORMATION

3.1 PRODUCTION DESCRIPTION

Product Name	:	Server
Model Number	:	QR1-1600, QSSC810
Brand Name	:	Quanta
Serial Number	:	N/A
Applicant	:	Quanta Computer Inc.
Address	:	No.188, Wen Hwa 2nd Rd., Kuei Shan Hsiang, Taoyuan Shien, Taiwan, R.O.C. 333
Manufacturer	:	1.QUANTA COMPUTER USA INC. 2.QCG COMPUTER GMBH 3.TECH-FRONT (SHANGHAI) COMPUTER CO., LTD. 4.QUANTA MFG NASHVILLE L L C
Address	:	1.45630 NORTHPORT LOOP, E FREMONT, CA 94538 USA 2.NEUENHOFSTRASSE 191 52078 AACHEN, GERMANY 3.2, LANE 58, SANZHUANG RD., SONGJIANG EXPORT PROCESSING ZONE,SHANGHAI, 201613, CHINA 4.1621 HEIL QUAKER BLVD, LAVERGNE, TN 37086 USA
Power Supply	:	AC Input:100~240Vac, 50/60Hz, 5.2-2.5A
Power Cord	:	3pins, Detachable, 1.8m, Non-Shielded, Non-Core

3.2 TEST MODES & EUT COMPONENTS DESCRIPTION

Test Mode	**Mode1-Pre Scan Mode (S/N:QMA-1000S)**	
CPU	Wolfdale 3.0G	
Memory	Qimonda 1G *4	
H.D.D.	Seagate SATA 250G *2, M/N: ST3250820AS, BSMI ID: D33027	
	Seagate SATA 500G *2, M/N: ST3500630NS, BSMI ID: D33027	
DVD-ROM	SONY, M/N: CRX880A	
Gigabit LAN	On Board (10/100/1000 Mbps)	
VGA	On Board	
Mother Board	Quanta, M/N: QMA-1000, S/N: QMA-1000S	
S.P.S.	AcBel, 400W, M/N: FS6011, BSMI ID: R33567	
Resolution	1280 x 1024, V-Sync: 75Hz	
Test Mode	**Mode2-Pre Scan Mode (S/N:QMA-1000V)**	**Mode3-Pre Scan Mode (S/N:QMA-1000S)**
CPU	Wolfdale 3.0G	Conrroe 3.0G
Memory	Qimonda 1G *4	
H.D.D.	Seagate SATA 250G *2, M/N: ST3250820AS, BSMI ID: D33027	
	Seagate SATA 500G *2, M/N: ST3500630NS, BSMI ID: D33027	
DVD-ROM	SONY, M/N: CRX880A	
Gigabit LAN	On Board (10/100/1000 Mbps)	
VGA	On Board	
Mother Board	Quanta, M/N: QMA-1000, S/N: QMA-1000V	Quanta, M/N: QMA-1000, S/N: QMA-1000S
S.P.S.	AcBel, 400W, M/N: FS6011, BSMI ID: R33567	
Resolution	1280 x 1024, V-Sync: 75Hz	
Test Mode	**Mode4-Pre Scan Mode (S/N:QMA-1000S)**	**Mode5-Test Mode (S/N:QMA-1000S)**
CPU	Conrroe 2.93G	Wolfdale 3.0G
Memory	Qimonda 1G *4	
H.D.D.	Seagate SATA 250G *2, M/N: ST3250820AS, BSMI ID: D33027	Seagate SATA 750G *4, M/N: ST3750640NS, BSMI ID: D33027
	Seagate SATA 500G *2, M/N: ST3500630NS, BSMI ID: D33027	
DVD-ROM	SONY, M/N: CRX880A	
Gigabit LAN	On Board (10/100/1000 Mbps)	
VGA	On Board	
Mother Board	Quanta, M/N: QMA-1000, S/N: QMA-1000S	
S.P.S.	AcBel, 400W, M/N: FS6011, BSMI ID: R33567	
Resolution	1280 x 1024, V-Sync: 75Hz	

Test Mode	Mode6-Pre Scan Mode (S/N:QMA-1000S)	Mode7-Pre Scan Mode (S/N:QMA-1000S)
CPU	Wolfdale 3.0G	Wolfdale 2.33G
Memory	Qimonda 1G *4	
H.D.D.	Seagate SAS 146G *4, M/N: ST3146855SS, BSMI ID: D33027	Seagate SATA 750G *4, M/N: ST3750640NS, BSMI ID: D33027
DVD-ROM	SONY, M/N: CRX880A	
Gigabit LAN	On Board (10/100/1000 Mbps)	
VGA	On Board	
Mother Board	Quanta, M/N: QMA-1000, S/N: QMA-1000S	
S.P.S.	AcBel, 400W, M/N: FS6011, BSMI ID: R33567	
Resolution	1280 x 1024, V-Sync: 75Hz	
Test Mode	**Mode8-Pre Scan Mode (S/N:QMA-1000S)**	**Mode9-Pre Scan Mode (S/N:QMA-1000S)**
CPU	Kentsfield 3.0G	Kentsfield 2.4G
Memory	Qimonda 1G *4	
H.D.D.	Seagate SATA 750G *4, M/N: ST3750640NS, BSMI ID: D33027	
DVD-ROM	SONY, M/N: CRX880A	
Gigabit LAN	On Board (10/100/1000 Mbps)	
VGA	On Board	
Mother Board	Quanta, M/N: QMA-1000, S/N: QMA-1000S	
S.P.S.	AcBel, 400W, M/N: FS6011, BSMI ID: R33567	
Resolution	1280 x 1024, V-Sync: 75Hz	

Note:

1.According to pre-scan data, we determine the data (Mode 5) shown in this test report, which reflects the worst-case data for each operation mode.

2.The EUT has series model numbers, because of the requirement of marketing;
The difference of model numbers are shown as below:

Server Series	Quanta P/N Descriptions	SI	MB Series	QSSC
		Model Name		Model Name
QR1-1600S	S48B MB ASSY(W/O CPU/PCI 32/33)P	QR1-1600	QMA-1000S	QSSC-810
QR1-1600A	S48B MB ASSY (W/O CPU /SAS PCI 32/33)V	QR1-1600	QMA-1000V	QSSC-810
QR1-1600U	S48B MB ASSY (W/O CPU) BIGBY-V	QR1-1600	QMA-1000T	QSSC-810
QR1-1600P	S48B MB ASSY (W/O CPU)	QR1-1600	QMA-1000U	QSSC-810

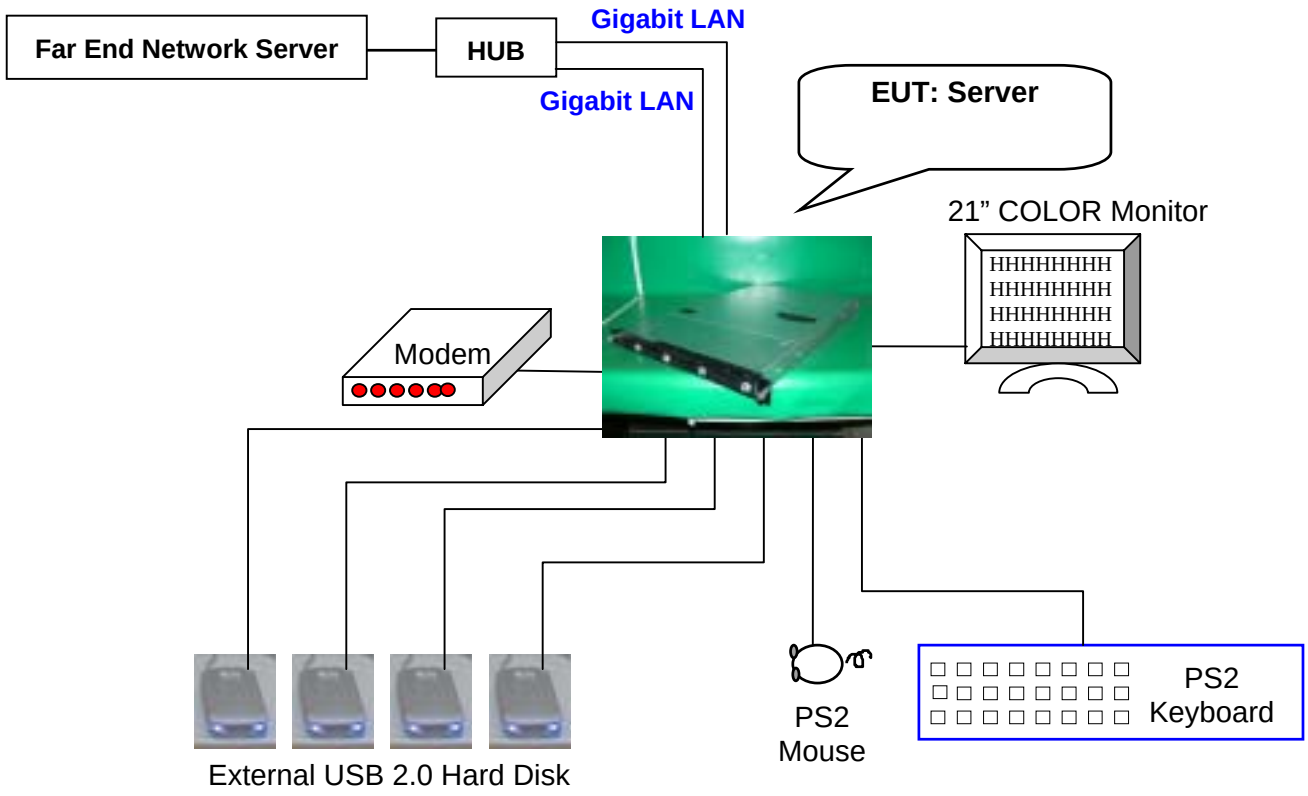
MB Series	MCH (NB)	SAS Controller	SAS connector	SAS connector	PCI 32/33 Slot	PCIex8 Slot	PCIex16 Slot
QMA-1000S	Bigby-P	LSI1064E	4	4	v	v	v
QMA-1000V	Bigby-V	x	x	6	v	x	v
QMA-1000T	Bigby-P	LSI1064E	4	4	x	x	v
QMA-1000U	Bigby-V	x	x	6	x	x	v

3.3 CONFIGURATION OF THE SYSTEM UNDER TEST

Device	No.	Configuration
21" COLOR Monitor	**M01-060**	Manufacturer : COMPAQ Model Number : PE1143-41 Serial Number : N/A BSMI ID : R31708 FCC ID : N/A Data Cable : Shielded, detachable, 1.5m, VGA Cable Power Cord : 3Pin, Shielded, Detachable, 1.5m
Modem	**M03-018**	Manufacturer : ACEEX Model Number : 1414V Serial Number : 0046171 BSMI ID : N/A FCC ID : IFAXDM1414 Data Cable : T Type:RS232, Shielded, Detachable, 1.2m Power Cord : Non-Shielded, Detachable, 1.5m Line : Type:RJ11(4P2C), Detachable, 1.8m Phone : Type:RJ11(4P2C), Detachable, 1.8m
PS2 Keyboard	**K01-087**	Manufacturer : IBM Model Number : SK-8811 Serial Number : 01979618 BSMI ID : 3902B330 FCC ID : N/A Data Cable : Shielded, Undetachable, 1.8 m
PS2 Mouse	**M02-400**	Manufacturer : detrois Model Number : CanMouse CM-309 Serial Number : N/A BSMI ID : R63159 FCC ID : N/A Data Cable : Shielded, Undetachable, 1.5m
External USB 2.0 Hard Disk	**U02-079**	Manufacturer : TERASYS Model Number : F12-UF Serial Number : A0100215-34P0030 BSMI ID : 4912A002 Data Cable : Shielded, detachable, 1.5m AC Power Adaptor : YHI M/N:YS-1015-U12A BSMI ID:4872A185 Input:AC IN:100V 50/60Hz 35VA Output: DC +12V ,1.25A
External USB 2.0 Hard Disk	**U02-100**	Manufacturer : TERASYS Model Number : F12-UF BSMI ID : 4912A002 Data Cable : Shielded, detachable, 1.5m AC Power Adaptor : YHI M/N:YS-1015-U12A BSMI ID:4872A185 Input:AC IN:100V 50/60Hz 35VA Output: DC +12V ,1.25A

Device	No.	Configuration
External USB 2.0 Hard Disk	**U02-086**	Manufacturer : TERASYS Model Number : F12-UF BSMI ID : 4912A002 Data Cable : Shielded, detachable, 1.5m AC Power Adaptor : YHI M/N:YS-1015-U12A BSMI ID:4872A185 Input:AC IN:100V 50/60Hz 35VA Output: DC +12V ,1.25A
External USB 2.0 Hard Disk	**U02-101**	Manufacturer : TERASYS Model Number : F12-UF BSMI ID : 4912A002 Data Cable : Shielded, detachable, 1.5m AC Power Adaptor : YHI M/N:YS-1015-U12A BSMI ID:4872A185 Input:AC IN:100V 50/60Hz 35VA Output: DC +12V ,1.25A
Far End Network Server	**-----**	Manufacturer : ASUS Model Number : AP160R Power Cord : Non- Shielded, Detachable, 1.8m
HUB	**-----**	Manufacturer : D-Link Model Number : DGS-1005D Power Cord : Non- Shielded, Detachable, 2.0m, 2pin

3.4 BLOCK DIAGRAM OF CONNECTIONS BETWEEN EUT AND SIMULATORS



3.5 TEST METHODOLOGY

Both conducted and radiated testing were performed according to the procedures in VCCI Article 5 Technical Requirements.

Radiated testing was performed at an antenna to EUT distance of **10** meters.

3.6 TEST FACILITY

Ambient conditions in the laboratory:

Items	Requirement
Temperature (°C)	10-40
Humidity (%RH)	10-90
Barometric pressure (mbar)	860-1060
VCCI SITE DESCRIPTION	Dec. 13, 1995 Certified by Voluntary Control Council For Interference By Information Technology Equipment JAPAN
NAME OF FIRM	Global EMC Standard Tech. Corp.
SITE LOCATION	No. 3, Pau-Tou-Tsuo Valley, Chia-Pau Tsuen, Lin Kou Hsiang, Taipei County, Taiwan, R.O.C.
REGISTRANTION NUMBER	R-1712, C-1831
Taiwan Accreditation Foundation (TAF)	Recognized by the Council of Taiwan Accreditation Foundation and confirmed to meet the requirements of ISO/IEC 17025. Registration No.: 1082 Registration on TAF effective through Sep. 19, 2009

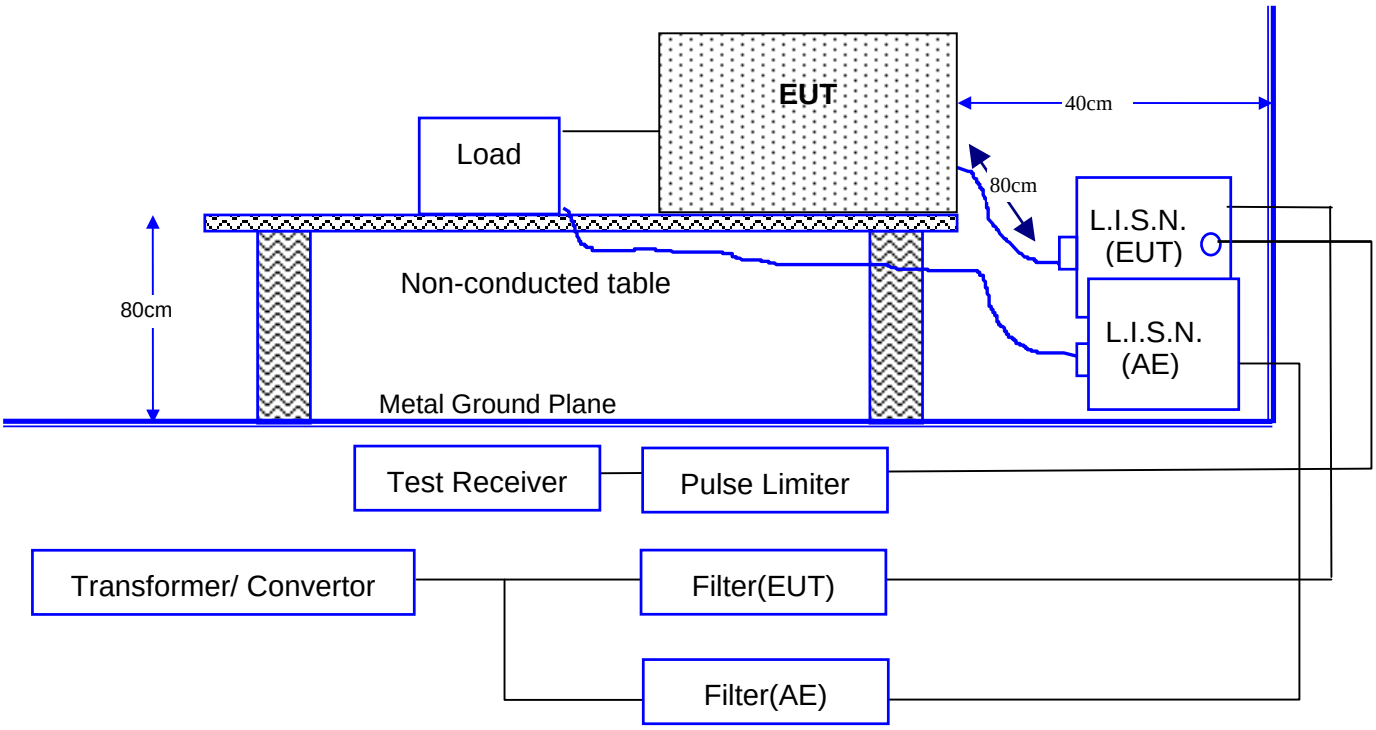
4. CONDUCTED EMISSION MEASUREMENT

4.1 TEST EQUIPMENTS

Item	Instrument	Manufacturer	Model	Serial No.	Next Cal. Date
1	Test Receiver	R & S	ESCS30	825022/003	2008.05.25
2	L.I.S.N.(EUT)	R & S	ENV216	100006	2008.05.28
3	L.I.S.N.(AE)	ROLF HEINE	NNB-2/16Z	98091	2008.07.22
4	Pulse Limiter	R & S	ESH3-Z2	357.8810.52	2008.08.01
5	RF CABLE	GTK	N/A	GTK-E-A154-01	2008.11.26
6	50 Ohm Terminator	GTK	N/A	GTK-E-A130-01	N/A
7	Shielded Room	GTK	N/A	B5	N/A

4.2 BLOCK DIAGRAM OF TEST SETUP

4.2.1 TEST SETUP FOR EMISSION MEASUREMENT AT MAINS TERMINAL



Note: This is a reprehensive setup diagram for Table-top EUT.
For Floor-standing EUT, the table will be removed with all others setup condition remain the same.

4.3 CONDUCTED EMISSION LIMITS

Frequency	Maximum RF Line Voltage dB(μV)			
	Class A		Class B	
MHz	QUASI-PEAK	AVERAGE	QUASI-PEAK	AVERAGE
0.15 to 0.50	79	66	66 to 56	56 to 46
0.50 to 5.0	73	60	56	46
5.0 to 30	73	60	60	50

Remarks: In the Above Table, the tighter limit applies at the band edges.

4.4 EUT CONFIGURATION ON MEASUREMENT

4.4.1 FOR POWER LINE

The equipments, which are listed at 4.2, are installed on Conducted Emission Test to meet the Commission requirement and operating in a manner which tends to maximize its emission characteristics in a normal application.
The device under test, installed in a representative system as described in section 4.2, was placed on a non-conductive table whose total height equaled 80 cm. The EUT was powered through one L.I.S.N. whose the signal output was terminated to the receiver. The other peripherals were powered from another L.I.S.N. whose the signal output was terminated by 50 Ohms terminator.

4.5 CONDUCTED EMISSION DATA

The measurement range of conducted emission, which is from **0.15 MHz to 30 MHz**, was investigated. The initial step in collecting conducted data is a spectrum analyzer peak scan of the measurement range for all the test modes. Then the worst modes were reported the following data pages.
The final measurement equal to Receiver reading plus a Correction factor when AMN insertion loss bigger than 0.5dB, the receiver added the correction factor to the reading level automatically.

4.6 OPERATING CONDITIONS OF THE EUT

The exercise program used during conducted emission measurement was designed to exercise the EUT in a manner similar to a typical use. The exercise sequence is listed as below:

1. Setup the EUT and simulators as shown on 4.3.
2. Turn on the power of all equipments.
3. Boot the Server from Hard Disk and setup the video to windows Server 2003, active all devices.
4. Adjust to appropriate video resolution.
5. Connect the Far End Network Server and run test program “test.bat “.
6. The EUT exchange the information with the GesTek server via HUB.
7. Active other internal devices such as network function.
8. Run “DVD-Play” & “H.D.D. R/W” & “EMC” test program under windows Server 2003.
9. Server sent “H” pattern to monitor, make the “H” pattern full in the screen.
10. Server sent “H” pattern to parallel and serial port.
11. Repeat above steps.

4.7 CONDUCTED EMISSION MEASUREMENT RESULTS

Date of Test	December 19, 2007	**Temperature**	26 ℃
EUT	Server	**Humidity**	60 %
Test Mode	Mode 5	**Display Pattern**	H Pattern
Test Power Supply	AC 100V/50Hz		

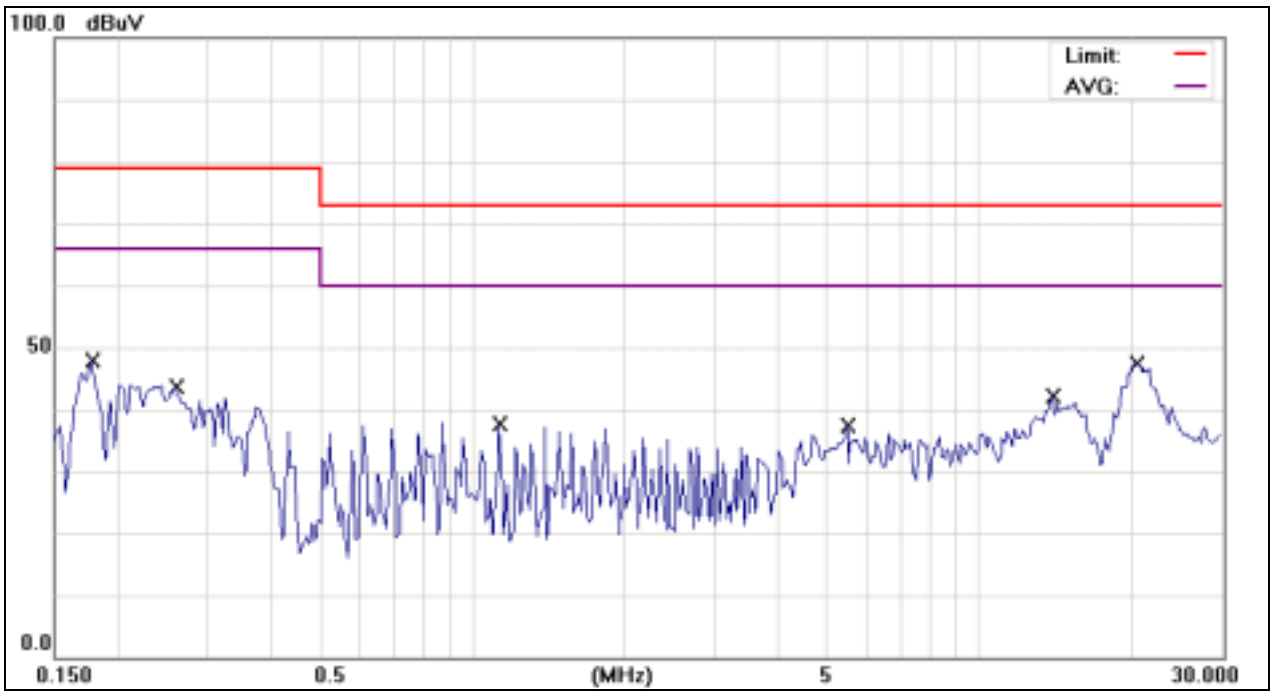
Line

No.	Frequency MHz	Reading Level dBµV	Factor dB	Measurement dBµV	Limit dBµV	Over Limit dB	Detector
1	0.1768	35.48	9.67	45.15	79.00	-33.85	QP
2	0.1768	31.56	9.67	41.23	66.00	-24.77	AVG
3	0.2589	30.53	9.67	40.20	79.00	-38.80	QP
4	0.2589	22.38	9.67	32.05	66.00	-33.95	AVG
5	1.1321	24.61	9.68	34.29	73.00	-38.71	QP
6	1.1321	22.67	9.68	32.35	60.00	-27.65	AVG
7	5.4868	21.40	9.73	31.13	73.00	-41.87	QP
8	5.4868	13.52	9.73	23.25	60.00	-36.75	AVG
9	13.8807	28.05	9.97	38.02	73.00	-34.98	QP
10	13.8807	20.74	9.97	30.71	60.00	-29.29	AVG
11	20.5993	36.58	10.30	46.88	73.00	-26.12	QP
12	★20.5993	27.47	10.30	37.77	60.00	-22.23	AVG

Remarks :

1. All readings are Quasi-peak and Average values.
2. Measurement = Reading + Factor (Could have ±0.01 tolerance due to computer automatically round off calculation).
3. Over Limit (Margin Value)=Measurement level-Limit value.
4. Factor = L.I.S.N. insertion loss + cable loss
5. " ★ " means that this data is the worse case measurement level.
6. The measurement uncertainty is 3.6 dB.

Line



Remark: 1. The "Limit" in right-up corner in above diagram refers to Quasi-peak ; "AVG" refers to the limit of Average.

Date of Test	December 19, 2007	**Temperature**	26 ℃
EUT	Server	**Humidity**	60 %
Test Mode	Mode 5	**Display Pattern**	H Pattern
Test Power Supply	AC 100V/50Hz		

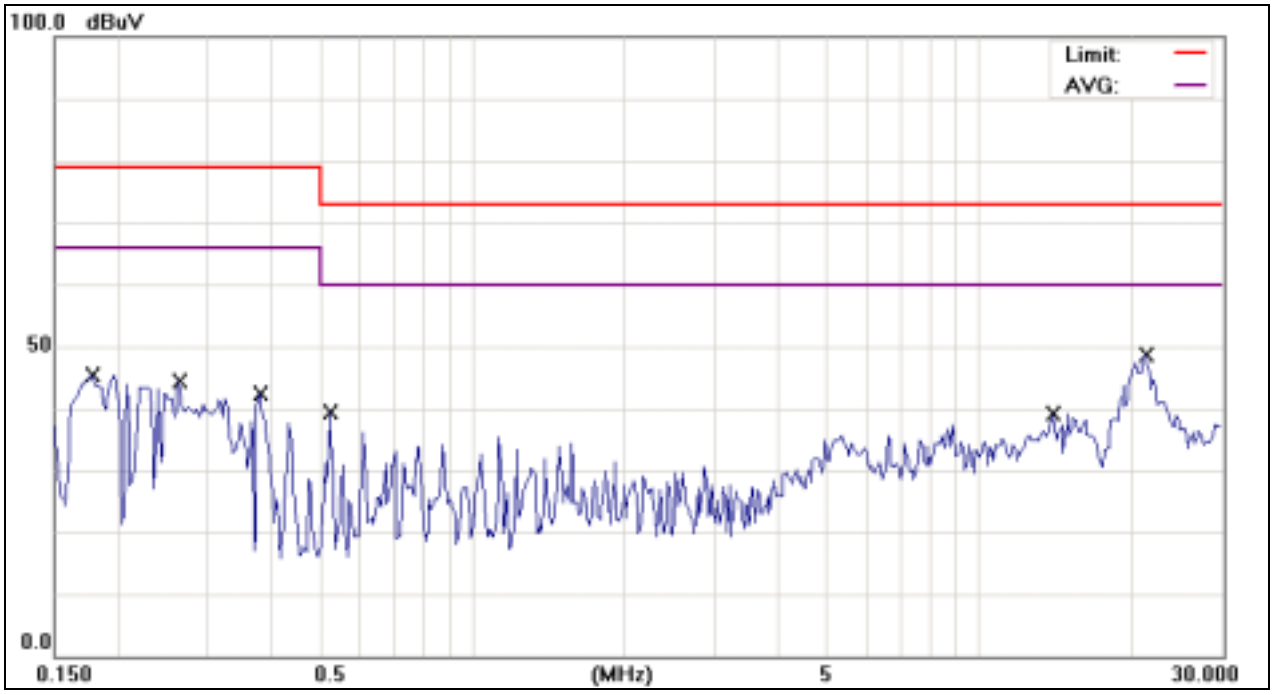
Neutral

No.	Frequency MHz	Reading Level dBµV	Factor dB	Measurement dBµV	Limit dBµV	Over Limit dB	Detector
1	0.1747	36.31	9.67	45.98	79.00	-33.02	QP
2	0.1747	33.12	9.67	42.79	66.00	-23.21	AVG
3	0.2630	31.75	9.67	41.42	79.00	-37.58	QP
4	0.2630	25.95	9.67	35.62	66.00	-30.38	AVG
5	0.3788	28.51	9.68	38.19	79.00	-40.81	QP
6	0.3788	18.13	9.68	27.81	66.00	-38.19	AVG
7	0.5242	29.23	9.68	38.91	73.00	-34.09	QP
8	★0.5242	28.35	9.68	38.03	60.00	-21.97	AVG
9	14.0548	25.19	9.99	35.18	73.00	-37.82	QP
10	14.0548	17.70	9.99	27.69	60.00	-32.31	AVG
11	21.3001	34.53	10.23	44.76	73.00	-28.24	QP
12	21.3001	24.31	10.23	34.54	60.00	-25.46	AVG

Remarks :

1. All readings are Quasi-peak and Average values.
2. Measurement = Reading + Factor (Could have ±0.01 tolerance due to computer automatically round off calculation).
3. Over Limit (Margin Value)=Measurement level-Limit value.
4. Factor = L.I.S.N. insertion loss + cable loss
5. " ★ " means that this data is the worse case measurement level.
6. The measurement uncertainty is 3.6 dB.

Neutral



Remark: 1. The "Limit" in right-up corner in above diagram refers to Quasi-peak ; "AVG" refers to the limit of Average.

5. RADIATION EMISSION DATA

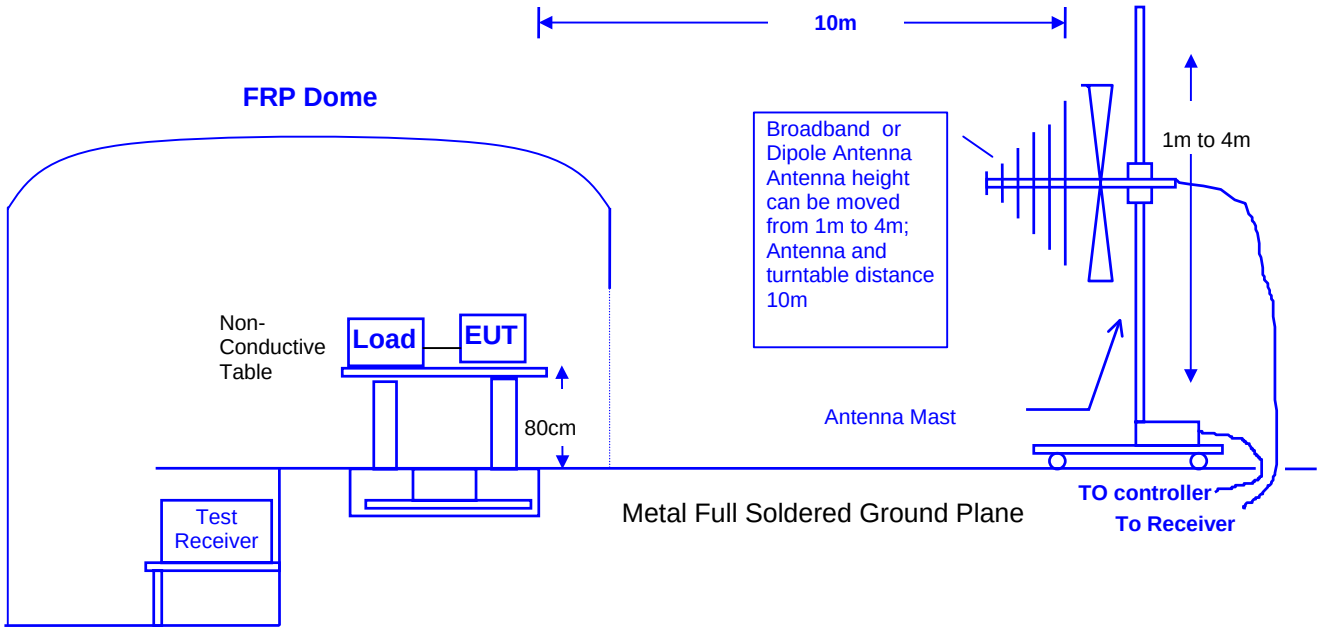
5.1 TEST EQUIPMENT

The following test equipments are used during the radiated emission tests:

Item	Instrument	Manufacturer	Model	Serial No.	Next Cal. Date
1	Test Receiver	R & S	ESVS30	829007/014	2008.01.18
2	Spectrum Analyzer	HP	E4407B	US39240339	2008.08.06
3	Pre-Amplifier	HP	8447D	2944A08272	2008.09.09
4	BILOG Antenna	SCHAFFNER	CBL6112B	2620	2008.11.22
5	CABLE	GTK	N/A	GTK-E-A316-01	2008.11.06
6	Open Site	GTK	N/A	B1	2008.11.18

5.2 OPEN TEST SITE SETUP DIAGRAM

Note: This is a reprehensive setup diagram for Table-top EUT.
For Floor-standing EUT, the table will be removed with all others setup condition remain the same.



5.3 RADIATED EMISSION LIMIT

☒**Class A Limit**

Frequency	Distance	Field Strength
MHz	Meter	dB(μV/m)
30 to 230	10	40
230 to 1000	10	47

Remark : 1. The tighter limit shall apply at the edge between two frequency bands.
2. Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system.

5.4 EUT CONFIGURATION

The equipment which is listed 3.4. are installed on Radiated Emission Test to meet the Commission requirement and operating in a manner which tends to maximize its emission characteristics in a normal application.
The device under test, installed in a representative system as described in section 5.2., was placed on a non-conductive table whose total height equaled 80 cm. This table can be rotated 360 degree. The measurement antenna was mounted to a non-conductive mast capable of moving the antenna vertically. Antenna height was varied from 1 meter to 4 meters and the system under test was rotated from 0 degree through 360 degrees relative to the antenna position and polarization (Horizontal and Vertical). Also the I/O cable position was investigated to find the maximum emission condition.

5.5 OPERATING CONDITIONS OF THE EUT

Same as section 4.6.

5.6 RADIATED EMISSION DATA

The measurement range of radiated emission, which is from **30 MHz to 1 GHz,** was investigated. All readings are quasi-peak values with a resolution Bandwidth of 120 KHz. The initial step in collecting radiated emission data is a spectrum analyzer peak scans of the measurement range for all the test modes and then use test receiver for final measurement. Then the worst modes were reported the following data pages.

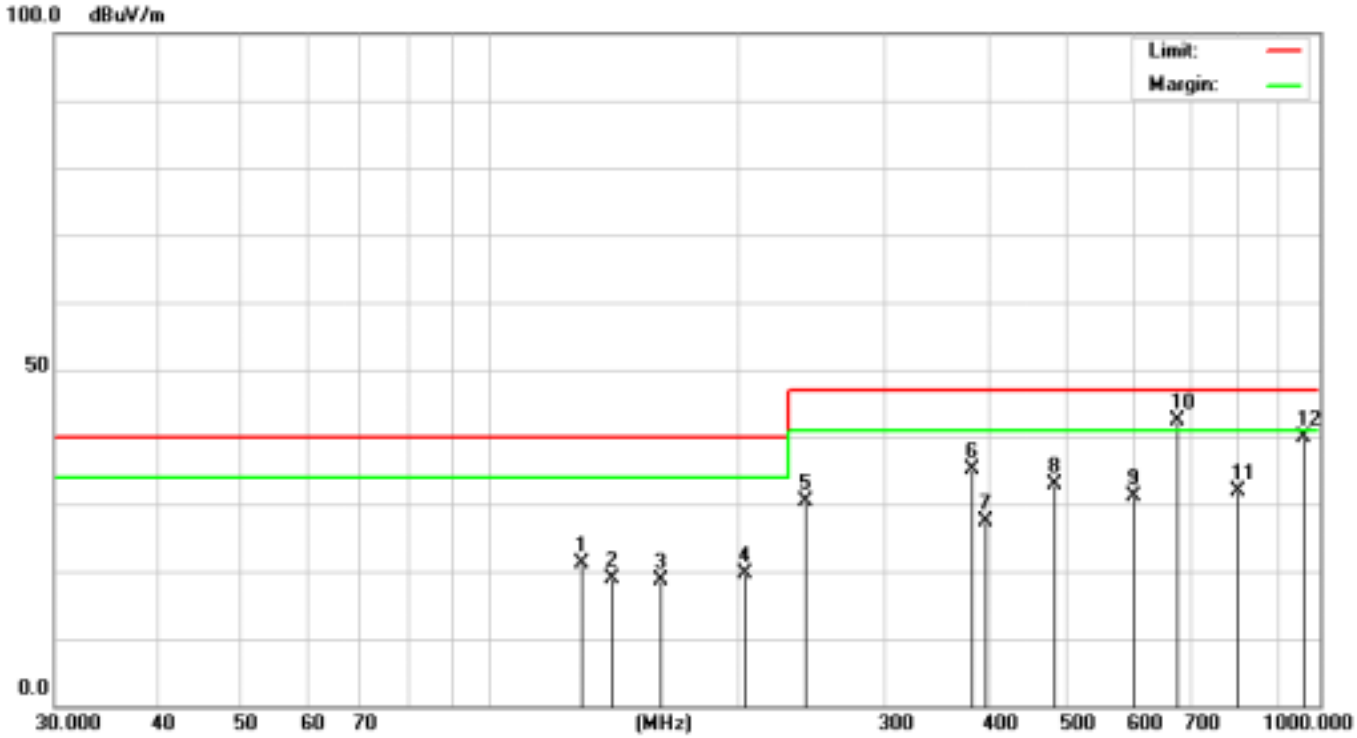
5.7 RADIATED EMISSIONS MEASUREMENT RESULTS

Date of Test	December 18, 2007	**Temperature**	26 deg/C
EUT	Server	**Humidity**	60 %RH
Working Cond.	Mode 5	**Display Pattern**	H Pattern
Antenna distance	10m at **Horizontal**	**Frequency Range**	30-1000MHz
Test Power Supply	AC 100V/50Hz		

No.	Frequency MHz	Reading Level dBµV	Factor dB	Measurement dBµV/m	Limit dBµV/m	Over Limit dB	Detector
1	129.6269	33.60	-12.47	21.13	40.00	-18.87	QP
2	140.4372	31.65	-12.78	18.87	40.00	-21.13	QP
3	160.9100	32.38	-13.87	18.51	40.00	-21.49	QP
4	203.3982	33.21	-13.57	19.64	40.00	-20.36	QP
5	240.0325	41.00	-10.74	30.26	47.00	-16.74	QP
6	384.0017	41.56	-6.52	35.04	47.00	-11.96	QP
7	398.2269	33.41	-6.14	27.27	47.00	-19.73	QP
8	480.0437	37.68	-4.74	32.94	47.00	-14.06	QP
9	600.1261	33.60	-2.58	31.02	47.00	-15.98	QP
10	★674.9944	43.90	-1.49	42.41	47.00	-4.59	QP
11	799.7189	31.60	0.18	31.78	47.00	-15.22	QP
12	965.0271	37.20	2.56	39.76	47.00	-7.24	QP

Remarks:

1. All Readings below 1GHz are Quasi-Peak.
2. Measurement = Reading + Factor (Could have ±0.01 tolerance due to computer automatically round off calculation).
3. Over Limit (Margin Value)=Measurement level-Limit value.
4. Factor = antenna factor + cable loss – amplifier gain.
5. " ★ " means that this data is the worse case measurement level.
6. The measurement uncertainty is 5.1 dB.



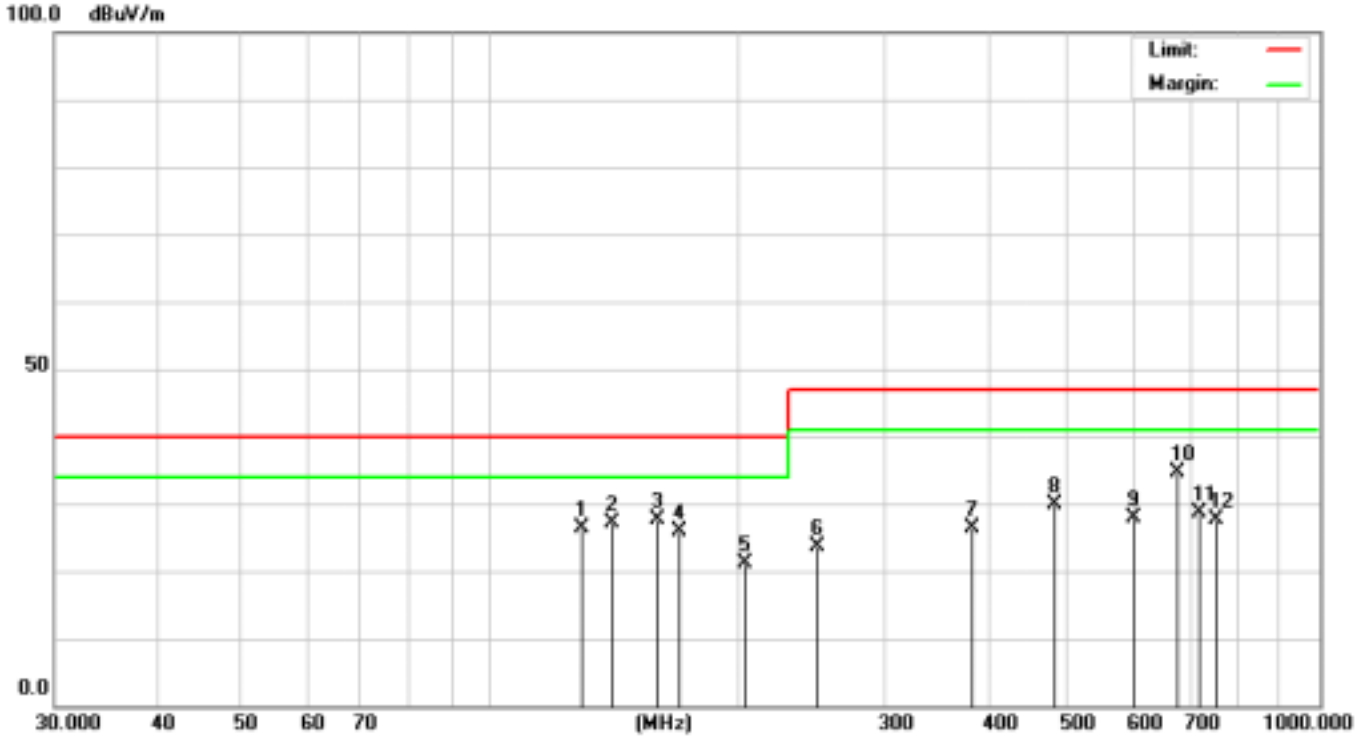
Remark: 1. The "Limit" in right-up corner in above diagram refers to Quasi-peak ; "Margin" refers to the data under 6dB.

Date of Test	December 18, 2007	**Temperature**	26 deg/C
EUT	Server	**Humidity**	60 %RH
Working Cond.	Mode 5	**Display Pattern**	H Pattern
Antenna distance	10m at **Vertical**	**Frequency Range**	30-1000MHz
Test Power Supply	AC 100V/50Hz		

No.	Frequency MHz	Reading Level dBµV	Factor dB	Measurement dBµV/m	Limit dBµV/m	Over Limit dB	Detector
1	129.6263	38.84	-12.47	26.37	40.00	-13.63	QP
2	140.4250	40.01	-12.77	27.24	40.00	-12.76	QP
3	★160.0027	41.50	-13.85	27.65	40.00	-12.35	QP
4	169.9029	40.01	-14.04	25.97	40.00	-14.03	QP
5	202.8453	34.65	-13.61	21.04	40.00	-18.96	QP
6	250.0172	33.58	-9.98	23.60	47.00	-23.40	QP
7	384.0003	32.87	-6.52	26.35	47.00	-20.65	QP
8	480.0431	34.70	-4.74	29.96	47.00	-17.04	QP
9	600.1277	30.45	-2.58	27.87	47.00	-19.13	QP
10	674.9952	36.05	-1.49	34.56	47.00	-12.44	QP
11	720.0039	29.45	-0.86	28.59	47.00	-18.41	QP
12	750.0491	27.98	-0.47	27.51	47.00	-19.49	QP

Remarks:

1. All Readings below 1GHz are Quasi-Peak.
2. Measurement = Reading + Factor (Could have ±0.01 tolerance due to computer automatically round off calculation).
3. Over Limit (Margin Value)=Measurement level-Limit value.
4. Factor = antenna factor + cable loss – amplifier gain.
5. " ★ " means that this data is the worse case measurement level.
6. The measurement uncertainty is 5.1 dB.



Remark: 1. The "Limit" in right-up corner in above diagram refers to Quasi-peak ; "Margin" refers to the data under 6dB.

6. PHOTOGRAPHS FOR TEST

6.1 TEST PHOTOGRAPHS FOR CONDUCTION EMISSION

Mode 5

6.2 TEST PHOTOGRAPHS FOR RADIATED EMISSION

Mode 5

7. PHOTOGRAPHS FOR PRODUCT

1. Front View Of Server (EUT).
2. Back View Of Server(EUT).

3. Back View Of Server(EUT).

8. EMI/EMS REDUCTION METHOD DURING COMPLIANCE TESTING

No.	Component Name	Manufacturer	Standards	Quantity	Position
1	gasket	laird	158*33*3 mm	1	I/O GASKET
2	springiness metal	Changguchuan	8.5*4.2*2.8 mm	1	HDD TRAY

Appendix A

Circuit (Block) Diagram

(Shall be added by Applicant)

Appendix B

User Manual

(Shall be added by Applicant)